



Form PTO-1449 (modified)		Atty. Docket No. UTSB:67SUS/SLH	Serial No. 09/699,023
List of Patents and Publications for Applicant's INFORMATION DISCLOSURE STATEMENT (Use several sheets if necessary)		Applicants Gang Chen <i>et al.</i>	
		Filing Date: October 27, 2000	Group: 1632
U.S. Patent Documents <i>See Page 1</i>	Foreign Patent Documents <i>See Page 1</i>	Other Art <i>See Page 1</i>	

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**U.S. Patent Documents**

Exam. Init.	Ref. Des.	Document Number	Date	Name	Class	Sub Class	Filing Date of App.
✓	A1	5,160,974	11/3/92	Siegel <i>et al.</i>	356	246	6/25/90
	A2	5,223,409	6/29/93	Ladner <i>et al.</i>	435	69.7	3/1/91
	A3	5,571,698	11/5/96	Ladner <i>et al.</i>	435	69.7	6/18/93
	A4	5,656,015	8/12/97	Young	601	2	4/19/95
	A5	5,759,810	6/2/98	Honjo <i>et al.</i>	435	69.1	3/28/96
	A6	5,780,279	7/14/98	Matthews <i>et al.</i>	435	172.3	4/5/95
	A7	5,824,520	10/20/98	Mulligan-Kehoe	435	91.41	7/19/97
	A8	5,837,500	11/17/98	Ladner <i>et al.</i>	435	69.7	4/3/95
✓	A9	5,922,545	7/13/99	Mattheakis <i>et al.</i>	435	6	7/29/97

**Foreign Patent Documents**

Exam. Init.	Ref. Des.	Document Number	Date	Country	Class	Sub Class	Translation Yes/No
	B1	EP 177,343	4/9/86	Europe			

**Other Art (Including Author, Title, Date Pertinent Pages, Etc.)**

Exam. Init.	Ref. Des.	Citation
✓	C1	Boeke <i>et al.</i> , "Effects of Bacteriophage f1Gene III Protein on the Host Cell Membrane," <i>Mol. Gen. Genet.</i> , 186:185-192, 1982.
	C2	Burioni <i>et al.</i> , "A new subtraction technique for molecular cloning of rare antiviral antibody specificities from phage display libraries," <i>Res. Virol.</i> , 149:327-330, 1998.
	C3	Burman <i>et al.</i> , "Murein and the Outer Penetration Barrier of <i>Escherichia coli</i> K-12, <i>Proteus mirabilis</i> , and <i>Pseudomonas aeruginosa</i> ," <i>J. Bacteriol.</i> , 112(3):1364-1374, 1972.
✓	C4	Chowdhury and Pastan, "Improving antibody affinity by mimicking somatic hypermutation in vitro," <i>Nat. Biotech.</i> , 17:568-572, 1999.

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EXAMINER: *Vanessa Ford* DATE CONSIDERED: *03/20/02*

EXAMINER: INITIAL IF REFERENCE CONSIDERED, WHETHER OR NOT CITATION IS IN CONFORMANCE WITH MPEP609; DRAW LINE THROUGH CITATION IF NOT IN CONFORMANCE AND NOT CONSIDERED. INCLUDE COPY OF THIS FORM WITH NEXT COMMUNICATION TO APPLICANT.

Form PTO-1449 (modified)		Atty. Docket No. UTSB:675US/SLH	Serial No. 09/699,023
List of Patents and Publications for Applicant's  INFORMATION DISCLOSURE STATEMENT  (Use several sheets if necessary)		Applicants Gang Chen <i>et al.</i>	
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Exam. Init.	Ref. Des.	Citation
✓	C5	Coia <i>et al.</i> , "Use of mutator cells as a means for increasing production levels of a recombinant antibody directed against Hepatitis B," <i>Gene</i> 201:203-209, 1997.
	C6	Dall'Acqua and Carter, "Antibody engineering," <i>Curr. Opin. Struct. Biol.</i> , 8:443-450, 1998.
	C7	Daugherty <i>et al.</i> , "Flow cytometric screening of cell-based libraries," <i>J. Immunol. Methods</i> , 243:211-227, 2000.
	C8	Daugherty <i>et al.</i> , "Development of an optimized expression system for the screening of antibody libraries displayed on the <i>Escherichia coli</i> surface," <i>Prot. Eng.</i> , 12:613-620, 1999.
	C9	De Haard <i>et al.</i> , "A Large Non-immunized Human Fab Fragment Phage Library That Permits Rapid Isolation and Kinetic Analysis of High Affinity Antibodies," <i>J. Biol. Chem.</i> , 274(26):18218-18230, 1999.
	C10	De Wildt <i>et al.</i> , "Antibody arrays for high-throughput screening of antibody—antigen interactions," <i>Nat. Biotechnol.</i> 18:989-994, 2000.
	C11	Decad and Nikaido, "Outer Membrane of Gram-Negative Bacteria, XII Molecular-Sieving Function of Cell Wall," <i>J. Bacteriol.</i> , 128(1):325-336, 1976.
	C12	Deng <i>et al.</i> , "Selection of Antibody Single-chain Variable Fragments with Improved Carbohydrate Binding by Phage Display," <i>J. Biol. Chem.</i> , 269:9533-9538, 1994.
	C13	Deng <i>et al.</i> , "Basis for selection of improved carbohydrate-binding single-chain antibodies from synthetic gene libraries," <i>Proc. Natl. Acad. Sci. USA</i> . 92:4992-4996, 1995.
	C14	Duenas and Borrebaeck, "Clonal selection and Amplification of Phage Displayed Antibodies by Linking Antigen Recognition and Phage Replication," <i>Biotechnology</i> , 12:999-1002, 1994.
	C15	Farmer <i>et al.</i> , "Penetration of $\beta$ -lactamase inhibitors into the periplasm of Gram-negative bacteria," <i>FEMS Microbiol. Lett.</i> , 176:11-15, 1999.
	C16	Georgiou <i>et al.</i> , "Display of heterologous proteins on the surface of microorganisms: From the screening of combinatorial libraries to live recombinant vaccines," <i>Nat. Biotechnol.</i> 15:29-34, 1997.
✓	C17	Griep <i>et al.</i> , "pSKAP/S: An Expression Vector for the Production of Single-Chain Fv Alkaline Phosphatase Fusion Proteins," <i>Prot. Exp. Purif.</i> , 16:63-69, 1999.
✓	C18	Griffiths <i>et al.</i> , "Isolation of high affinity human antibodies directly from large synthetic repertoires," <i>EMBO J.</i> , 13(14):3245-3260, 1994.

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Applicants  
**Gang Chen et al.****TECH CENTER**

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Filing Date:  
October 27, 2000Group:  
1632U.S. Patent Documents  
*See Page 1*Foreign Patent Documents  
*See Page 1*Other Art  
*See Page 1***Other Art (Including Author, Title, Date Pertinent Pages, Etc.)**

Exam. Init.	Ref. Des.	Citation
	C19	Hawkins <i>et al.</i> , "Selection of Phage Antibodies by Binding Affinity," <i>J. Mol. Biol.</i> , 226:889-896, 1992.
	C20	Hobot <i>et al.</i> , "Periplasmic Gel: New Concept Resulting from the Reinvestigation of Bacterial Cell Envelope Ultrastructure by New Methods," <i>J. Bacteriol.</i> , 160(1):143-152, 1984.
	C21	Hoogenboom <i>et al.</i> , "Creating and engineering human antibodies from immunotherapy," <i>Adv. Drug. Deliv. Rev.</i> , 31:5, 1998.
	C22	Hudson, "Recombinant antibody fragments," <i>Curr. Opin. Biotechnol.</i> , 9:395-402, 1998.
	C23	Johns <i>et al.</i> , "In vivo selection of sFv from phage display libraries," <i>J. Immunol. Methods</i> , 239:137-151, 2000.
	C24	Jouenne and Junter, "Do $\beta$ -lactam antibiotics permeabilize the outer membrane of Gram-negative bacteria? An electrochemical investigation," <i>FEMS Microbiol. Lett.</i> , 68:313-318, 1990.
	C25	Kjaer <i>et al.</i> , "Glycerol diversifies phage repertoire selections and lowers non-specific phage absorption," <i>FEBS Lett.</i> , 431:448-452, 1998.
	C26	Knappick <i>et al.</i> , "Fully Synthetic Human Combinatorial Antibody Libraries (HuCAL) Based on Modular Consensus Frameworks and CDRs Randomized with Trinucleotides," <i>J. Mol. Biol.</i> , 296:57-86, 2000.
	C27	Krebber <i>et al.</i> , "Inclusion of an upstream transcriptional terminator in phage display vectors abolishes background expression of toxic fusions with coat protein g3p," <i>Gene</i> , 178:71-74, 1996.
	C28	Krebber <i>et al.</i> , "Reliable cloning of functional antibody variable domains from hybridomas and spleen cell repertoires employing a reengineered phage display system," <i>J. Immunol. Methods</i> , 201:35-55, 1997.
	C29	Levitin, "Stochastic Modeling and Optimization of Phage Display," <i>J. Mol. Biol.</i> , 277:893-916, 1998.
	C30	MacKenzie and To, "The role of valency in the selection of anti-carbohydrate singl-chain Fvs from phage display libraries," <i>J. Immunol. Methods</i> , 220:39-49, 1998.
	C31	MacKenzie <i>et al.</i> , "Analysis by Surface Plasmon Resonance of the Influence of Valence on the Ligand Binding Affinity and Kinetics of an Anti-carbohydrate Antibody," <i>J. Biol. Chem.</i> , 271(3):1527-1533, 1996.

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## U.S. Patent Documents

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	C32	Malmborg <i>et al.</i> , "Selection of binders from phage displayed antibody libraries using the BIACore biosensor," <i>J. Immunol. Methods</i> , 198:51-57, 1996.
	C33	Martinez <i>et al.</i> , "Accurate Kinetic Modeling of Alkaline Phosphatase in the <i>Escherichia coli</i> Periplasm: Implications for Enzyme Properties and Substrate Diffusion," <i>Biochemistry</i> , 35:1179-1186, 1996.
	C34	Martinez <i>et al.</i> , "Steady-state enzyme kinetics in the <i>Escherichia coli</i> periplasm: a model of a whole cell biocatalyst," <i>J. Biotechnol.</i> , 71:59-66, 1999.
	C35	Maynard and Georgiou, "Antibody Engineering," <i>Annu. Rev. Biomed. Eng.</i> , 2:339-376, 2000.
	C36	Mutuberria <i>et al.</i> , "Model systems to study the parameters determining the success of phage antibody selections on complex antigens," <i>J. Immunol. Methods</i> , 231:65-81, 1999.
	C37	Nikaido and Vaara, "Molecular Basis of Bacterial Outer Membrane Permeability," <i>Microbiol. Rev.</i> , 49(1):1-32, 1985.
	C38	Oliver, "Periplasm," 88-103, 1996.
	C39	Olsen <i>et al.</i> , "Function-based isolation of novel enzymes from a large library," <i>Nat. Biotechnol.</i> , 18:1071-1074, 2000.
	C40	Pini <i>et al.</i> , "Design and Use of a Phage Display Library," <i>J. Biol. Chem.</i> , 273(34):21769-21776, 1998.
	C41	Rodi and Makowski, "Phage-display technology—finding a needle in a vast molecular haystack," <i>Curr. Opin. Biotechnol.</i> , 10:87-93, 1999.
	C42	Sblattero and Bradbury, "Exploiting recombination in single bacteria to make large phage antibody libraries," <i>Nat. Biotechnol.</i> , 18:75-80, 2000.
	C43	Sheets <i>et al.</i> , "Efficient construction of a large nonimmune phage antibody library: The production of high-affinity human single-chain antibodies to protein antigens," <i>Proc. Natl. Acad. Sci. USA.</i> , 95:6157-6162, 1998.
	C44	Shusta <i>et al.</i> , "Yeast Polypeptide Fusion Surface Display Levels Predict Thermal Stability and Soluble Secretion Efficiency," <i>J. Mol. Biol.</i> , 292:949-956, 1999.
	C45	Thompson <i>et al.</i> , "Affinity Maturation of High-affinity Human Monoclonal Antibody Against the Third Hypervariable Loop of Human Immunodeficiency Virus: Use of Phage Display to Improve Affinity and Broaden Strain Reactivity," <i>J. Mol. Biol.</i> 256, 77-88, 1999.

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Exam. Init.	Ref. Des.	Citation
<i>WJ</i>	C46	Van Wielink and Duine, "How big is the periplasmic space?" <i>Trends Biochem Sci.</i> , 15:136-137, 1990.
<i>WJ</i>	C47	Vaughan <i>et al.</i> , "Human Antibodies with Sub-nanomolar Affinities Isolated from a Large Non-immunized Phage Display Library," <i>Nat. Biotechnol.</i> , 14:309-314, 1996.

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